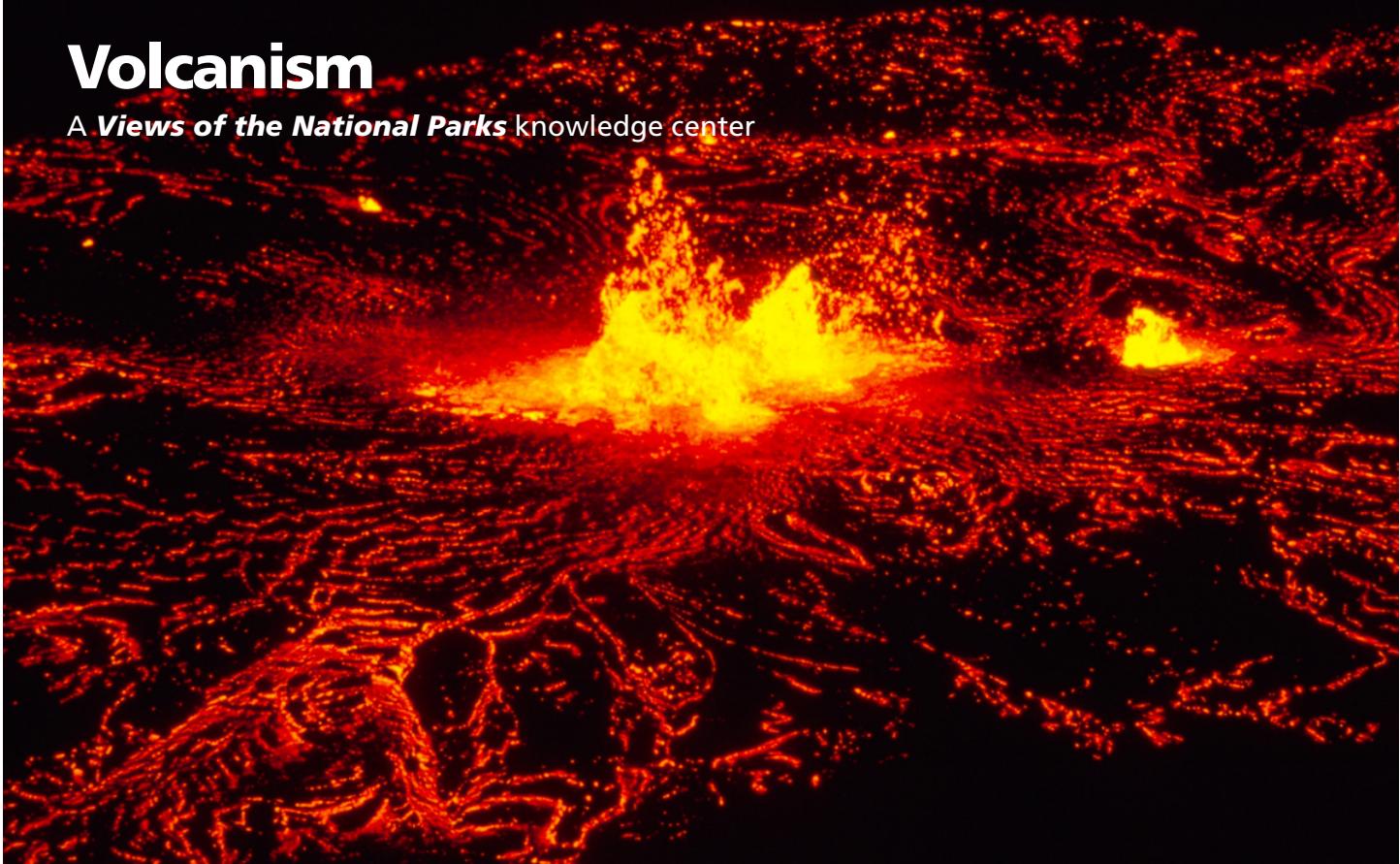




Volcanism

A *Views of the National Parks* knowledge center



It is through the process of volcanism that land is added to Earth, constantly changing the planet's surface. There are many national parks that encompass volcanic features. Central to interpretation at these parks, and geology education in classrooms, is a basic understanding of volcanism.

The Natural Resource Program Center - Office of Education and Outreach and the Geologic Resource Division (GRD) have teamed up to create a knowledge center on volcanism to provide information on the parts of volcanoes, how they are formed, where they are found, and the features and landscapes they create. Also, the knowledge center explores the various types of eruptions and hazards associated with volcanoes, and introduces users to the monitoring and forecasting techniques used by geologists.

Users are exposed to the processes and products of volcanism. The knowledge center allows users to see the impacts of volcanoes from the past and present in our national parks.

Features

This knowledge center is an interactive and exciting way to teach the concepts of volcanism. Explore the following features:

- **Introduction**

Learn the anatomy of a volcano, and visually identify and differentiate between shield volcanoes and composite volcanoes.

- **Volcanic eruptions and hazards**

Vivid images of erupting volcanoes and the hazards they create are both stunning and informative.

- **Volcanic landforms and features**

Explains the formation of volcanic landscapes and the types of rocks produced by volcanoes.

- **Monitoring and forecasting**

Explore the science of volcanology through case studies depicting several methods of monitoring and predicting volcanic activity.

- **National park case studies**

Explore various parks with prominent volcanic landscapes.

Spectacular views from eruptions at Hawaii Volcanoes National Park in Hawaii inspire curiosity about the Earth and the power of volcanoes.
(NPS Photo)

We had circles and serpents and streaks of lightning all twined and wreathed and tied together, without a break ... and it was with a feeling of placid exultation that we reflected that many years had elapsed since any visitor had seen such a splendid display.

— Mark Twain
on visiting Kilauea in 1866

There are web links throughout the knowledge center connecting users to

Visit *Views of the National Parks* online:
www2.nature.nps.gov/Views

Learn about volcanism basics, then explore examples found throughout national parks.

Volcanism

Introduction Eruptions Features Monitoring Parks Challenge

Effusive Eruptions

Effusive eruptions are generally considered to be gentler than explosive eruptions. During an effusive eruption, large volumes of lava pour from a vent onto the ground. These lava flows can vary in volume, area covered, thickness, length, and composition. Though effusive eruptions are generally associated with lava pouring out of a vent, some eruptions can include fantastic displays of fire and fury. Lava fountains can reach hundreds of meters into the air. Here are some of the hazards that can result from effusive eruptions:

- [Lava Flows](#)
- [Tsunamis](#)
- [Volcanic Gases](#)

Haleakala Hawaii Volcanoes Wrangell-St. Elias

more extensive sources of information or park web pages.

Uses

This knowledge center can be used in interpretation programs at parks with volcanic features, or parks where volcanic features have played an important role. Visitors will have a much richer park experience if they have a basic knowledge of how volcanism has shaped and affected that park.

This knowledge center can also be used to emphasize connections between our national parks. There are numerous parks that contain volcanic features and many of these are confronted with similar resource management issues. Teachers can use this knowledge center in its entirety, or in part, to expose students to the concepts of volcanoes. The case studies from different parks give students real examples of volcanoes and the landscapes they create. This knowledge generates greater understanding of the process of volcanism as it has operated in Earth's past and continues to operate today.

Teaching Standards

The Teacher Guide provides teachers (both local and distant) with curriculum-based activities and lesson plans that can be used in the classroom and in the field. Information is provided so teachers can relate this

knowledge center to national teaching standards.

Partners

This knowledge center was developed with the help of many people and organizations. The Natural Resource Program Center - Office of Education and Outreach expresses special thanks to

- Hawaii Volcanoes National Park
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- USGS Alaska Volcano Observatory
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Hawaii Volcanoes National Park is presently an area of active volcanism.... Along the trail to Sulfur Bank, several fumaroles can be seen. A close look at one vent reveals bright yellow sulfur deposits. Another fumarole near Sulfur Bank deposits sulfur on nearby rocks as its gases rise through them.

— Volcanism knowledge center
Learn about Fumeroles at Hawaii Volcanoes National Park

Visit Geologic Resources Division online:
www2.nature.nps.gov/geology